State Revolving Fund Loan Programs
Drinking Water, Wastewater, Nonpoint Source

ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT

CITY OF BLOOMINGTON UTILITIES
PRELIMINARY ENGINEERING REPORT ADDENDUM # 3:
SEWER AND MANHOLE REHABILITATION IN SOUTH EAST SEWER BASIN
SRF # 06 44 53 05

DATE: March 13, 2009

TARGET PROJECT APPROVAL DATE: April 13, 2009

I. INTRODUCTION

The above entity has applied to the Clean Water State Revolving Loan Fund (SRF) for a loan to finance all or part of the wastewater project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The SRF Clean Water Program has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the deadline date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

Max Henschen
Senior Environmental Manager
State Revolving Fund -- IGCN 1275
100 N. Senate Ave.
Indianapolis, IN 46204
317-232-8623

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name and Address:	City of Bloomington Utilities South East Sewer Basin Collection System Improvements Preliminary Engineering Report Addendum #3 600 E. Miller Drive P. O. Box 1216 Bloomington, Indiana 47402-1216
SRF Project Number:	WW06 44 53 05
Authorized Representative:	Mr. Patrick Murphy, Director City of Bloomington Utilities Department

II. PROJECT LOCATION

The South East Sewer Basin area is generally bound by East 10th Street to the north, East Rhorer Road to the south, South Smith Road to the east and South High Street to the west. Figure 1 shows the South East Sewer Basin study area, including the division of the study area into smaller drainage basins, called mini-basins. The project will occur in the USGS Bloomington quadrangle, T9N, R1W, section 34 (Bloomington civil township) and T8N, R1W, sections 3 & 10 (Perry civil township), as well as in the Unionville quadrangle T9N, R1W, sections 35 & 36 (Bloomington civil township) and T8N, R1W, sections 1 & 2 (Perry civil township).

III. PROJECT NEED AND PURPOSE

The City of Bloomington Utilities (CBU) wastewater service area is approximately 21 square miles. The sanitary sewer system consists of approximately 300 miles of 8- to 48-inch diameter gravity sewer and force main pipe. There are 42 lift stations and two wastewater treatment plants (WWTPs).

The North sewer basin is served by a 36-inch interceptor that conveys wastewater to the 6 million gallon per day (mgd) Blucher Poole WWTP. Wastewater from the five southern sewer basins (i.e., South West, Central West, Central East, South East and Dillman) is conveyed by a 48-inch interceptor to the 15 mgd Dillman Road WWTP.

Portions of Bloomington's sanitary sewer system have high rates of infiltration and inflow (I/I). The city's older sanitary sewers are primarily vitrified clay pipe with leaky joints. Flow studies have shown that the older vitrified clay pipe is prone to high leakage rates, especially during the wet season when the groundwater elevation may be above the sewer elevation.

Bloomington has implemented a Wet Weather Management Program for more than a decade to reduce and/or eliminate sanitary sewer overflows (SSOs) caused by excessive I/I. A sewer rehabilitation project was implemented in 2007 and 2008 in the Central East Sewer Basin. The South East Sewer Basin received the second highest priority for corrective action.

In 2005, a comprehensive sewer system evaluation survey (SSES) was completed in the South East Sewer Basin on 29 mini-basins; the study identified mini-basins 1, 2, 3, 4, 5, 6, 8, 9, and 12 for corrective action.

IV. PROJECT DESCRIPTION

The city will rehabilitate the sewers using a trenchless technology (cured-in-place-pipe [CIPP]); the manholes will be rehabilitated by grouting. Some point repairs will be made, and some pipe may need to be replaced.

The city will first pursue rehabilitation only in mini-basins 1, 4, 5, 6, and 9. Mini-basins 2, 3, 8 and 12 will be rehabilitated in the future. The improvements will help reduce local surcharging of sewer mains and will reduce wet weather flows to the College Mall Road Sewer.

Mini-Basin No. 1 *(Figure 2)*

- Line 1,075 feet of 10-inch sewer and 1,940 feet of 8-inch sewer using CIPP;
- Rehabilitate 18 manholes.

Mini-Basin No. 2 *(Figure 3)*

- Line 270 feet of 10-inch sewer and 5,065 feet of 8-inch sewer using CIPP;
- Rehabilitate 42 manholes.

Mini-Basin No. 3 *(Figure 4)*

- Line 4,885 feet of 8-inch sewer using CIPP;
- Rehabilitate 38 manholes.
-

Mini-Basin No. 4 *(Figure 5)*

- Line 4,655 feet of 8-inch sewer using CIPP;
- Rehabilitate 22 manholes.

Mini-Basin No. 5 *(Figure 6)*

- Line 360 feet of 10-inch sewer and 4,235 feet of 8-inch sewer using CIPP;
- Rehabilitate 30 manholes.

Mini-Basin No. 6 *(Figure 7)*

- Line 900 feet of 10-inch sewer, 2,000 feet of 8-inch sewers and 365 feet of 6-inch sewers using CIPP;
- Rehabilitate 18 manholes.

Mini-Basin No. 8 *(Figure 8)*

- Line 250 feet of 10-inch sewer and 1,505 feet of 8-inch sewers using CIPP;
- Rehabilitate 11 manholes.

Mini-Basin No. 9 *(Figure 9)*

- Line 4,240 feet of 12-inch sewer, 1,485 feet of 10-inch sewer and 735 feet of 8-inch sewer using CIPP;
- Rehabilitate 45 manholes.

Mini-Basin No. 12 *(Figure 10)*

In the spring of 2008, approximately 3,700 feet of 10-inch sewer and 15 manholes were rehabilitated. Further work will include:

- Lining 1,480 feet of 10-inch sewer and 6,165 feet of 8-inch sewer using CIPP;
- Rehabilitating 48 manholes.

The recommended project will have a positive long-term environmental impact on water quality and public health due to reduced wet weather-related sanitary sewer overflows.

V. Estimated Project Costs, Affordability and Funding

A. Selected Plan Estimated Cost Summary

Division 1 of the South East Basin Collection System project addresses the 5 mini-basins with the most significant I/I problems.

Division 1 Rehabilitation/Improvements Estimated Construction Cost:

Mini-Basin 1	$ 162,705
Mini-Basin 4	$ 225,960
Mini-Basin 5	$ 253,120
Mini-Basin 6	$ 170,180
Mini-Basin 9	$ 423,795
Construction Cost Subtotal	$1,235,760
Construction Contingency, 10%	$ 123,576
Total Division 1 Construction Cost	**$1,359,336**

Non-Construction Costs for Division 1 (Engineering, administrative, legal and bond, etc.) have already been funded by the city using local funds. The city plans to request an SRF disbursement for $138,100 in engineering fees, if funds remain in the existing loan after the Division 1 work is finished.

B. To address mini-basins 1, 4, 5, 6, and 9, Bloomington will use funds remaining in SRF loan WW06 44 53 05, on which the city closed on June 29, 2006. There are approximately $1.65 million dollars remaining in that loan. Mini-basins 2, 3, 8, and 12 will be addressed in future projects.

VI. DESCRIPTION OF EVALUATED ALTERNATIVES

A. "No Action"

Under this alternative, there would be no improvements made to the sanitary sewer system to reduce and/or eliminate sanitary sewer overflows to meet federal water quality regulations. This alternative was rejected.

B. Optimum Operation of Existing Facilities

The Utility performs routine collection system maintenance. Every sanitary sewer is cleaned within a ten year period, with trouble segments receiving more frequent cleaning. To perform only this maintenance without rehabilitating the sewers and manholes would neither significantly reduce the number of sanitary sewer overflows nor improve the aging infrastructure. This alternative was rejected.

C. Sewer Capacity Improvements

Under this alternative, larger sewers would be installed to convey wet weather flows from the South East Sewer Basin to the wastewater treatment plant. This alternative was rejected. The elimination of sanitary sewer overflows will require both larger sewers and I/I reduction. Control of I/I reduces the need for construction of additional capacity in the collection system and at the wastewater treatment plant.

D. I/I Reduction

This is the selected alternative. The reduction of infiltration and inflow (I/I) through systematic inspection and rehabilitation addresses the cause of sanitary sewer overflows and is essential to protect the investment in sewers and wastewater treatment plants, as well as to protect public health and the environment.

The types of collection system rehabilitation considered for I/I reduction included manhole rehabilitation and sewer rehabilitation methods, including sewer replacement, cured-in-place-pipe (CIPP) sewer and pipe-bursting.

1. Sewer Rehabilitation Alternatives

a. Sewer Replacement: Under this alternative, an existing sewer has been identified for replacement due to serious structural damage, differential settlement along the sewer segment or to hydraulic capacity limitations. Seven sewer segments were identified that require small repairs before in-situ lining. These repairs will require excavation to replace approximately 20 feet of pipe at each location. Excavation required to replace these sewer segments will be held to a minimum to reduce disruption to streets.

b. Cured-in-Place Pipe Rehabilitation: CIPP lining will be used to rehabilitate most sewers.

c. Pipe-bursting: This trenchless technology is not likely to be used.

2. Manhole Rehabilitation

The city will grout manholes and use a multi-component polyurethane/polymeric lining system. This rehabilitation method will reduce or eliminate infiltration and will protect the manhole from corrosion and structural deterioration.

Sewer and manhole rehabilitation may not reduce the number of sanitary sewer overflows enough to provide compliance with federal clean water regulations. To that end, Bloomington has developed a system-wide sewer computer model to identify additional sewer capacity improvements to comply with the clean water act regulations. A draft Sanitary Sewer Overflow Corrective Action Plan was submitted to the Indiana Department of Environmental Management (IDEM) in August 2007. Wastewater flows are not expected to increase significantly in the South East Sewer Basin Study area, as this part of the service area has already been developed and there is very little growth projected for the study area in the future. Consequently, the existing sanitary sewer system and the Dillman Road Wastewater Treatment Plant have the capacity to transport and treat average dry weather flows from the South East Sewer Basin for the next 20 years.

VII. Environmental Impacts of the Feasible Alternatives

A. Direct Impacts of Construction and Operation

Disturbed and Undisturbed Areas: The proposed project will take place on previously disturbed ground under existing streets and sidewalks, immediately next to roads, and in disturbed utility easements in residential neighborhoods.

Historical and Architectural Resources (Figure 11): Only the East Central Sites map from the Bloomington Interim Report covers any part of the 12 mini-basins; the Monroe County Interim Report does not cover the 12 mini-basin project area. The proposed project will not affect historic sites. Audible, atmospheric or visual effects of the project construction and operation will be temporary. The SRF's finding pursuant to Section 106 of the National Historic Preservation Act is: "no historic properties affected."

Wetlands (Figure 12): The proposed project will not affect wetlands.

Surface Waters (Figures 13 and 14): Part of the project in mini-basin 2 will occur near an ephemeral tributary to Indian Creek (see Figure 13), but will not cross the stream. Sewer segment 3233-3934 in mini-basin 9 on Pleasant Ridge Road crosses under Jackson Creek. However, the CIPP trenchless rehabilitation method will be used at this crossing; excavation will not be required. The project will not adversely affect waters of high quality listed in 327 IAC 2-1-2(3), exceptional use streams listed in 327 IAC 2-1-11(b), Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2) or Salmonid Streams listed in 327 IAC 2-1.5-5(a)(3).

Floodplains (Figure 15): The only portion of the project in the 100-year floodplain is in mini-basin 8. Since the sewer is underground, the floodplain carrying capacity will not be affected.

Groundwater: Construction of below-grade structures may require temporary dewatering. The groundwater table will be restored to normal levels following construction. The proposed projects are not expected to result in long-term impacts on groundwater.

Plants and Animals: The construction and operation of the project will not negatively affect state or federal-listed endangered species or their habitat. A minimal amount of brush clearing may be required. If an area needs to be cleared for construction access, the corridor to be cleared will be limited to 15 feet in width. The city does not have plans to keep construction corridors clear.

Prime Farmland and Geology: The project will not affect prime farmland.

Air Quality: The proposed projects will result in short-term impacts on air quality resulting from construction activities such as truck traffic, dust, and noise.

Open Space and Recreational Opportunities: The proposed project's construction and operation will neither create nor destroy open space and recreational opportunities.

The proposed project will not affect the Lake Michigan Coastal Zone or National Natural Landmarks.

B. Indirect Impacts

The city's Preliminary Engineering Report (PER) states: *The City of Bloomington Utilities Department will ensure, through the authority of Bloomington's City council and its planning commission or other means, that future development, as well as future collection system or treatment works projects connecting to SRF-funded facilities, will not adversely impact wetlands, archaeological/historical/structural resources, or other sensitive environmental resources. The City will require new development and treatment works projects to be constructed within the guidelines of the U.S. Fish and Wildlife Service, IDNR, IDEM, and other environmental review authorities.*

C. Comments from Environmental Review Authorities

The Natural Resources Conservation Service, in correspondence dated August 21, 2008, noted that the project *will not cause a conversion of prime farmland.*

This document is the first notice for comment to the U.S. Fish and Wildlife Service, the IDNR Division of Historic Preservation and Archaeology, and the IDNR Environmental Unit.

VIII. Mitigation Measures

The city's PER states:

A. [The city will implement] *Measures cited in comment letters from the Indiana Department of Natural Resources and U.S. Fish and Wildlife. The project will be implemented to minimize impact to non-endangered species and their habitat.*

B. [The city will] *Use appropriate structural best management practices (i.e., silt fencing, staked hay bales, etc.) to control stormwater runoff and sediment transport during and after construction.*

C. Construction entrances, roadways, and staging areas will be stabilized prior to construction with crushed stone to reduce sediment transport. Streets will be cleaned as required to prevent soil/sediment from entering storm drains.

D. *Construction activities (tree trimming and brush clearing) will not be started until a firm schedule is known and can be effectively coordinated with the appropriate soil erosion control measures.*

E. *Debris from tree trimming and brush clearing will be removed from the project area and disposed of in an appropriate manner. Any areas of exposed soil from the construction activities will be mulched and seeded.*

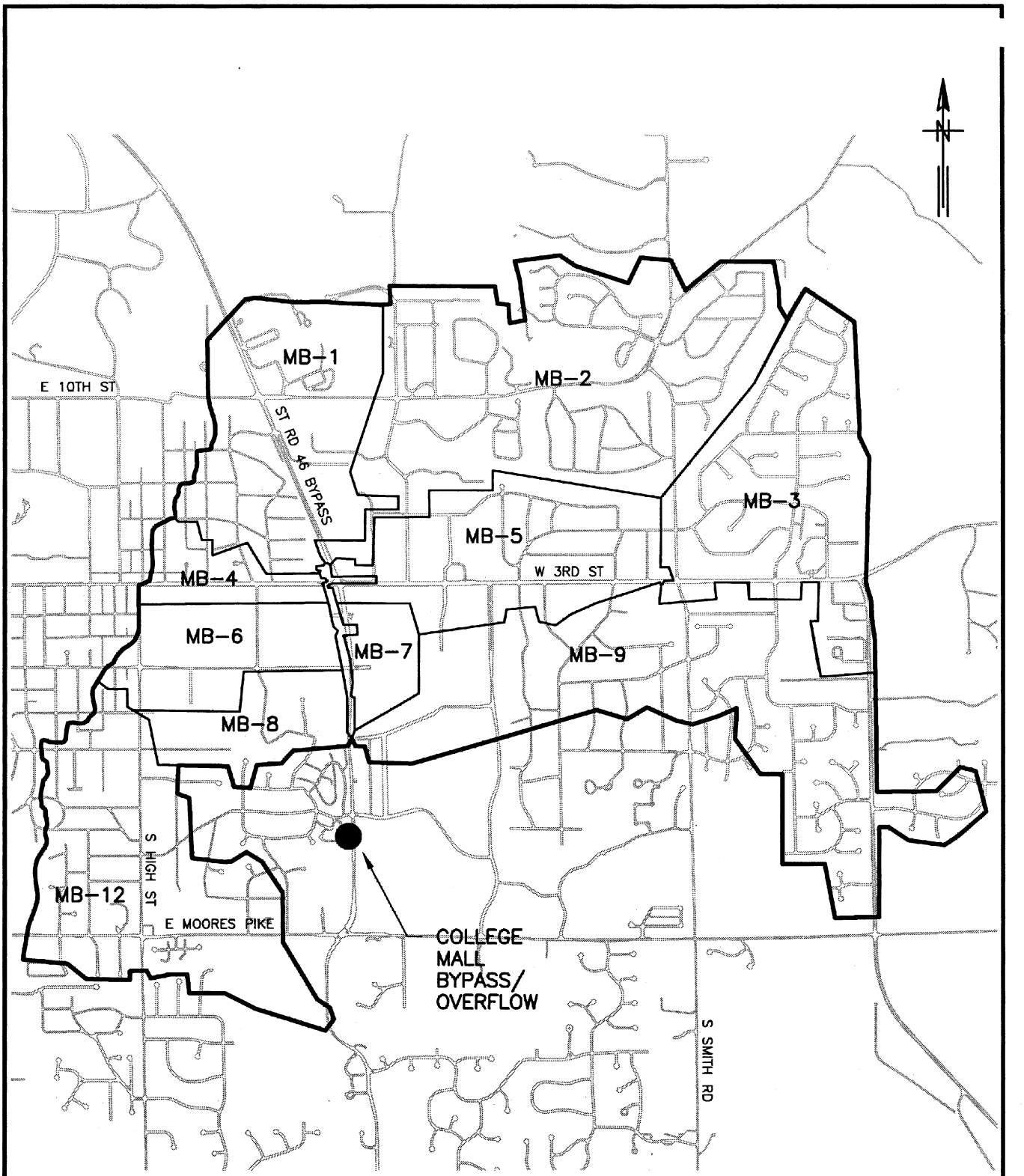
F. *Construction equipment associated with the sewer rehabilitation will be well-muffled where possible and construction will be scheduled for daylight hours only.*

G. *The stormwater pollution prevention plan will be consistent with applicable state and local ordinances.*

H. *Construction specifications will require that proper control measures be utilized to control stormwater runoff and erosion from the project site.*

IX. PUBLIC PARTICIPATION

A properly noticed public hearing was held on November 25, 2008 at 5.00 PM in the CBU Board Room in Bloomington to discuss the project. No negative comments were voiced at the public hearing; no written comments were submitted in the five day period following the hearing.



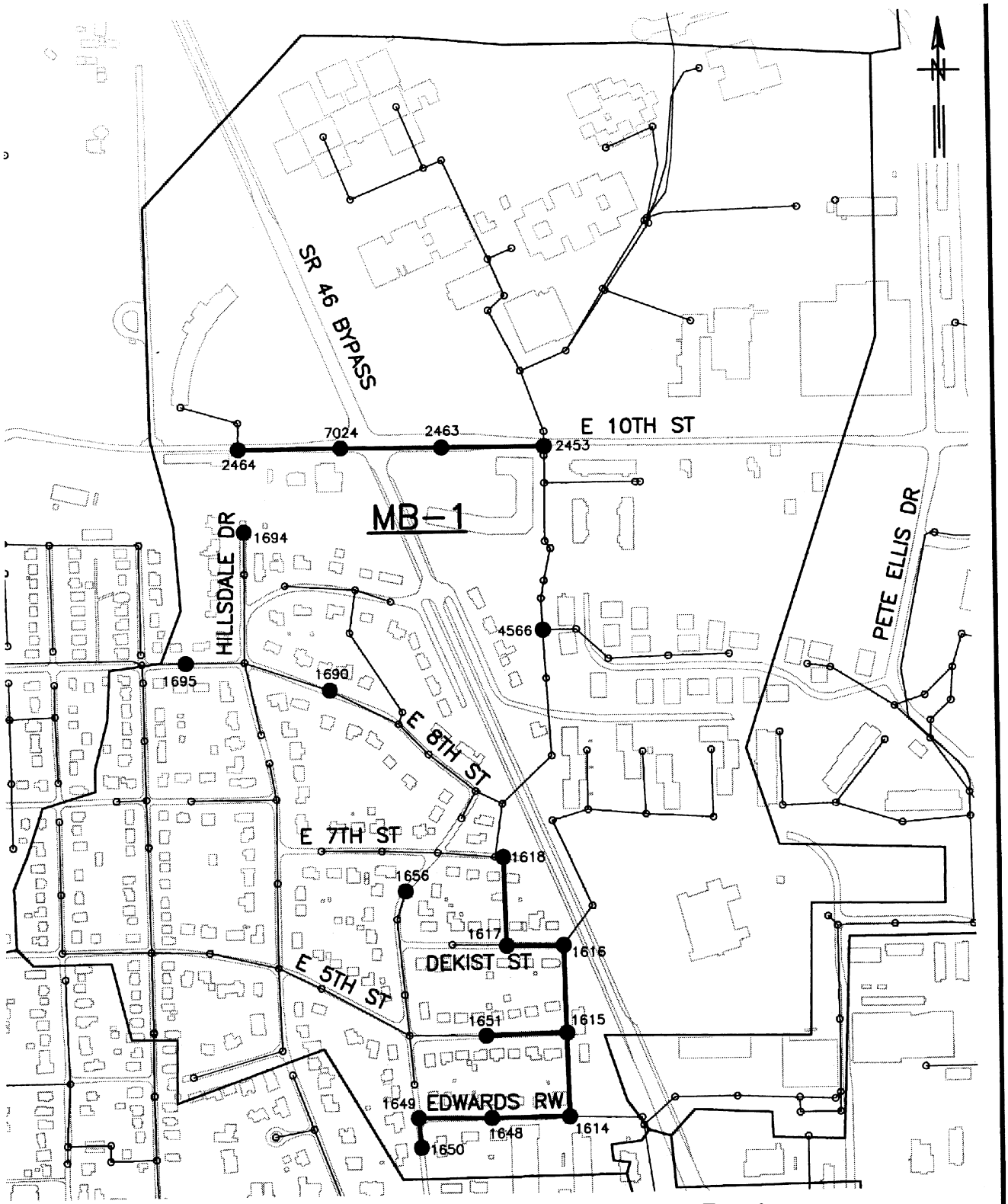
PROJECT LOCATION MAP

FIGURE 1

GREELEY AND HANSEN

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR05 1:1 10/02/08 10:20 GH-H



REHABILITATION LOCATION MB-1

400 0 400 800 FT

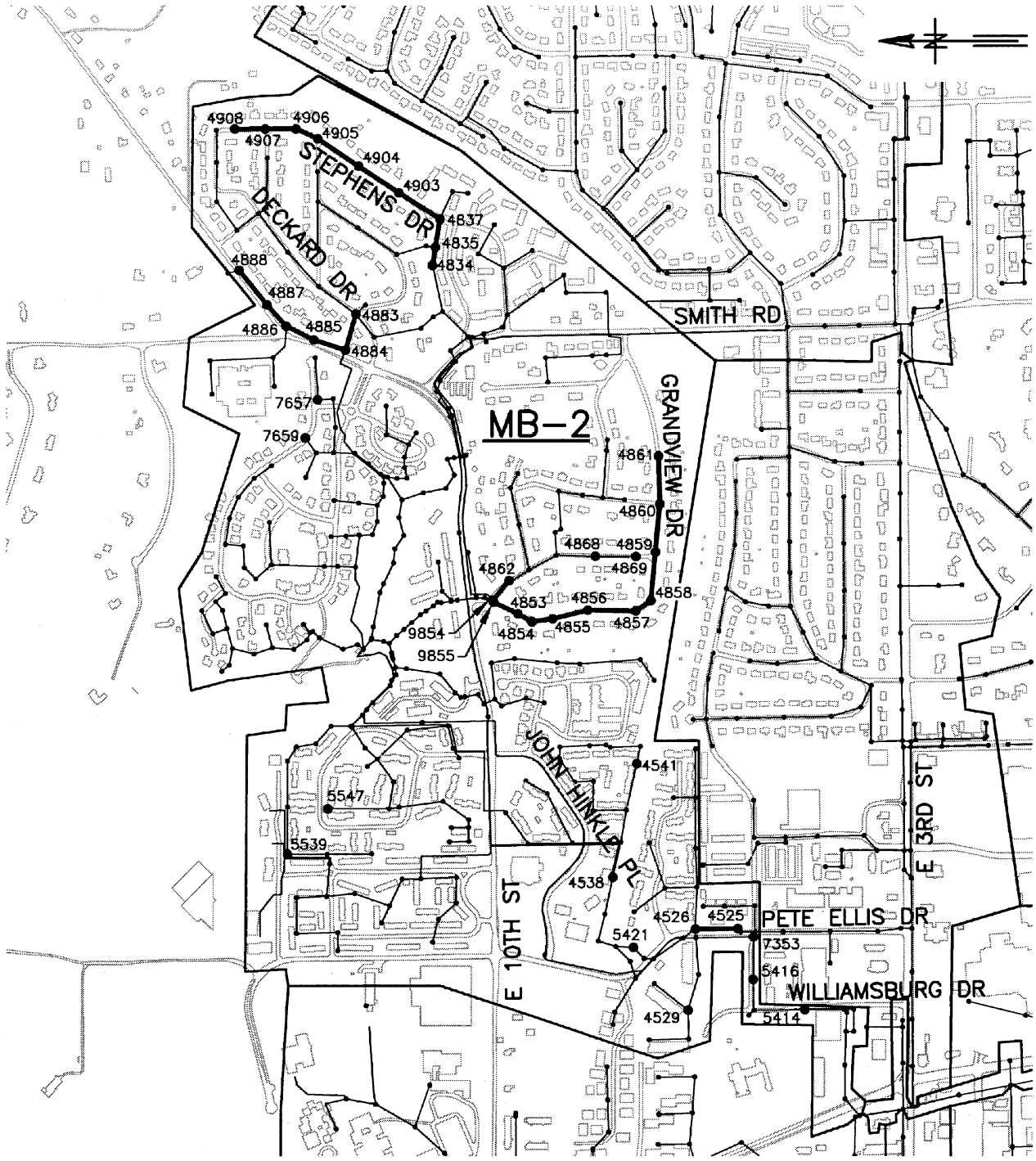
1"=400'

GREELEY AND HANSEN

FIGURE

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR03 1:1 10/31/08 14:56 GH-H



REHABILITATION LOCATION MB-2

1000 0 1000 2000 FT

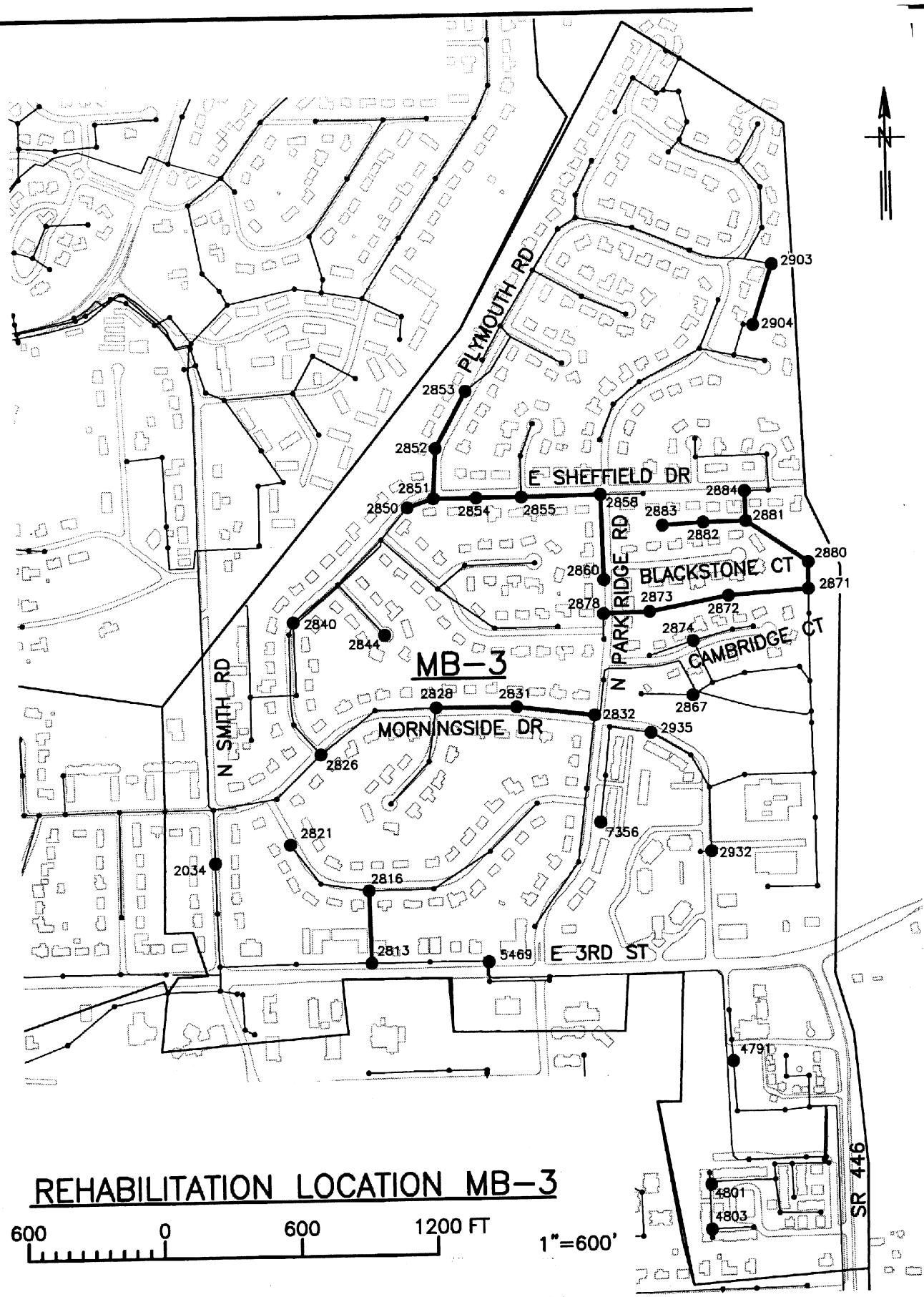
1"=1000'

GREELEY AND HANSEN

FIGURE 3

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR07 1:1 09/30/08 14:38 GH-H



REHABILITATION LOCATION MB-3

600 0 600 1200 FT

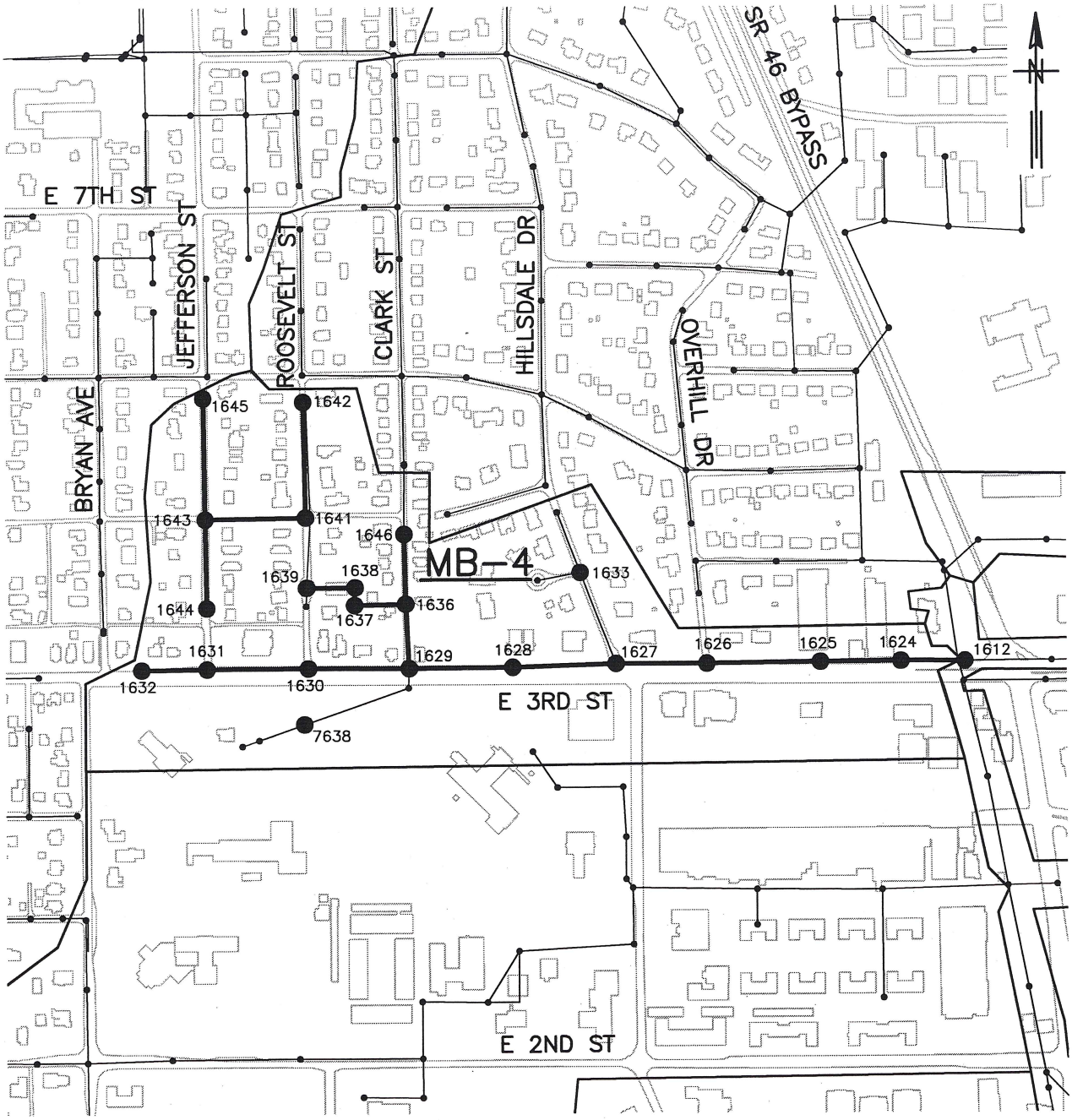
1"=600'

FIGURE 4

GREELEY AND HANSEN

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR08 1:1 09/29/08 08:43 GH-H



REHABILITATION LOCATION MB-4

400 0 400 800 FT

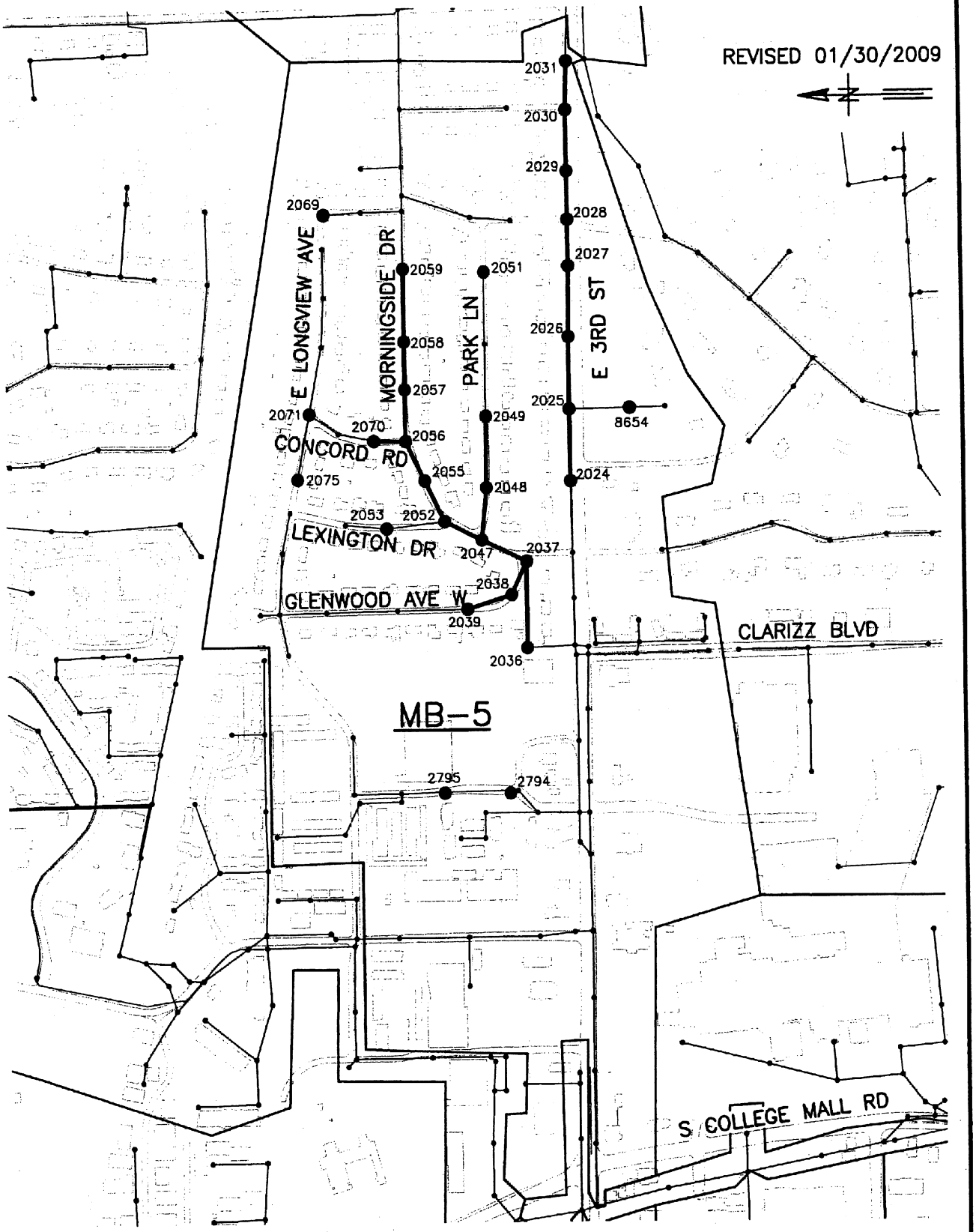
1"=400'

FIGURE 5

GREELEY AND HANSEN

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR09 1:1 09/30/08 14:05 GH-H



REHABILITATION LOCATION MB-5

600 0 600 1200 FT

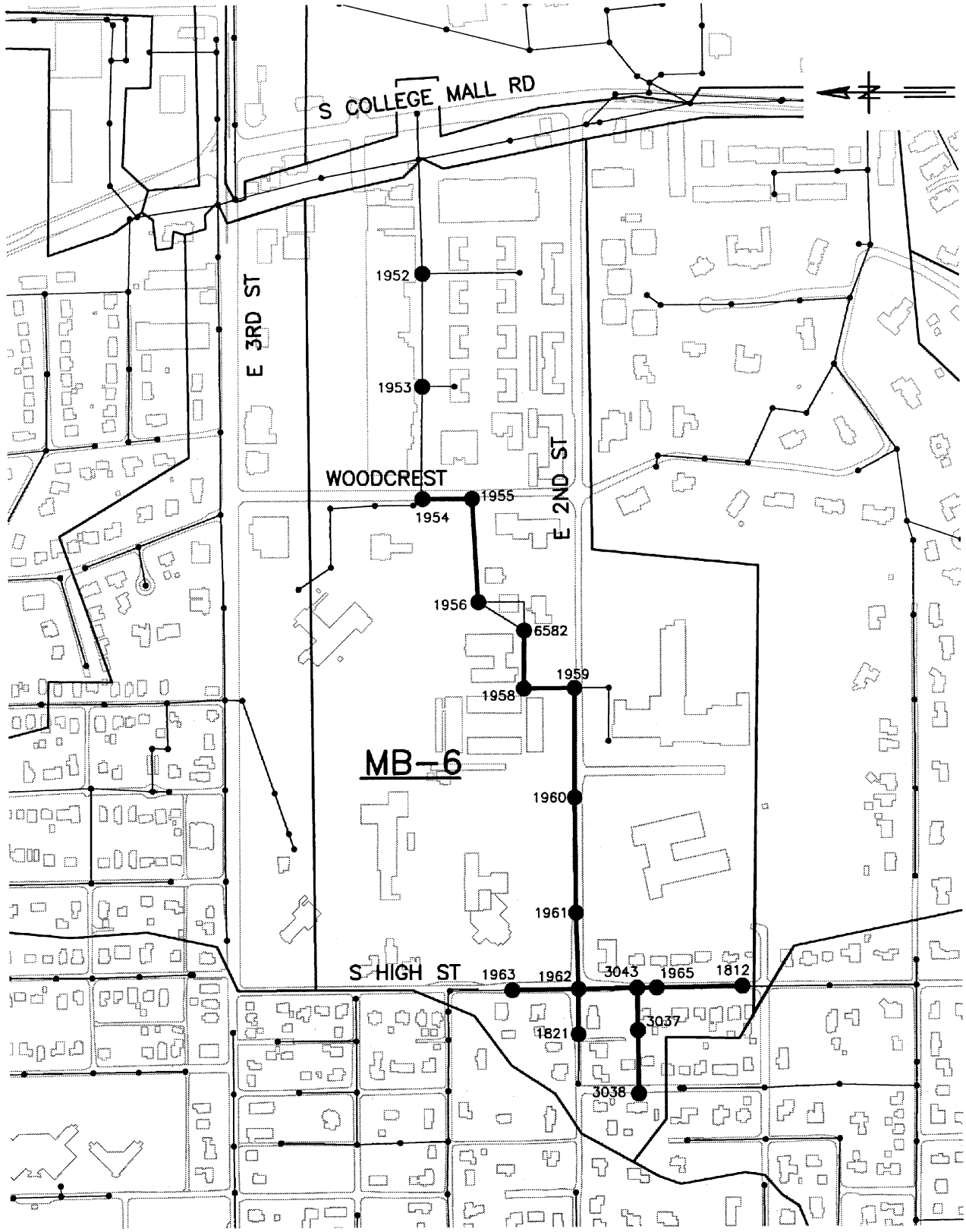
1"=600'

FIGURE 6

GREELEY AND HANSEN

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR10 1:1 01/30/09 13:33 GH-H



REHABILITATION LOCATION MB-6

500 0 500 1000 FT

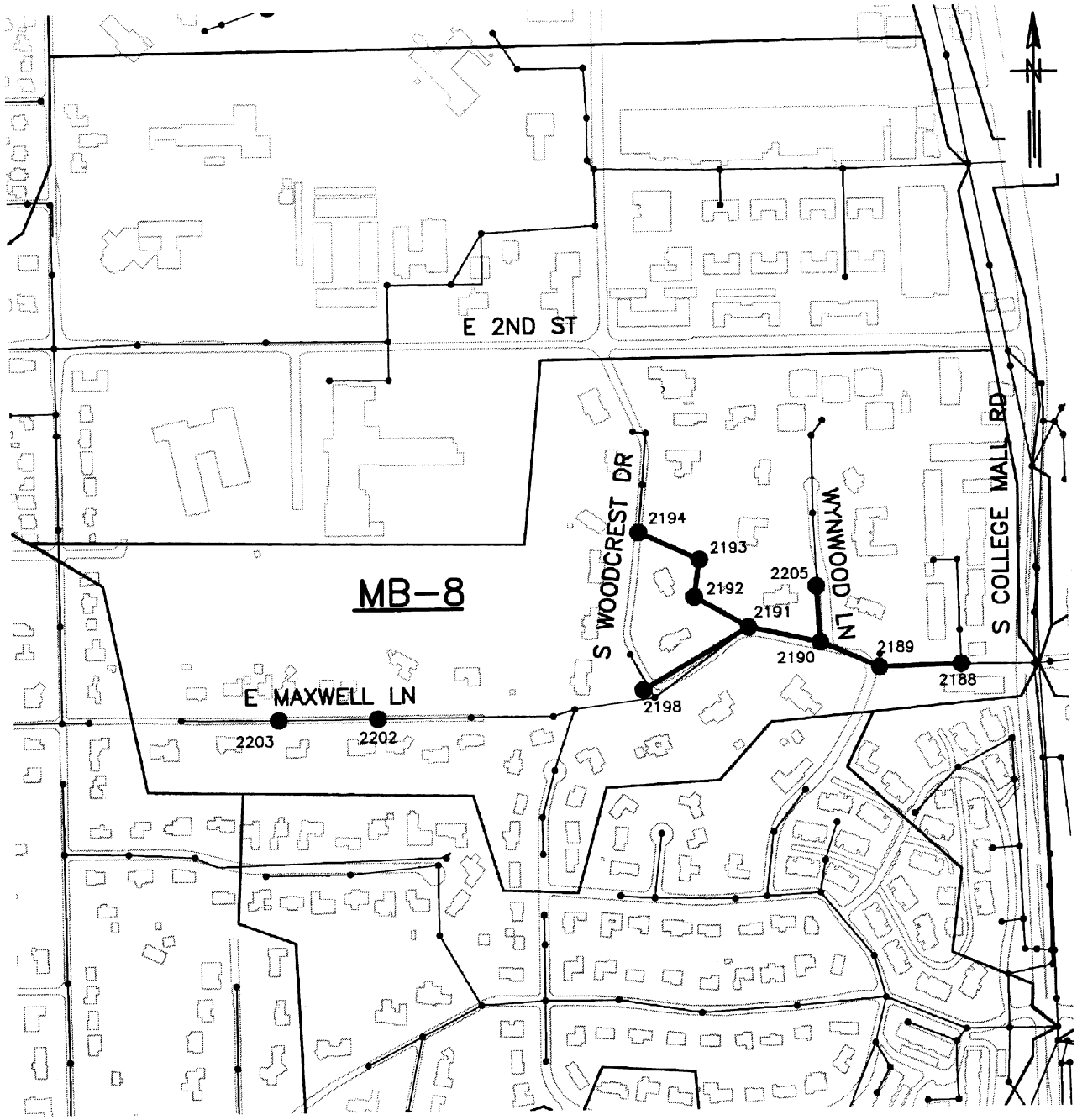
1"=500'

GREELEY AND HANSEN

FIGURE 7

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR11 1:1 09/30/08 14:26 GH-H



REHABILITATION LOCATION MB-8

400 0 400 800 FT

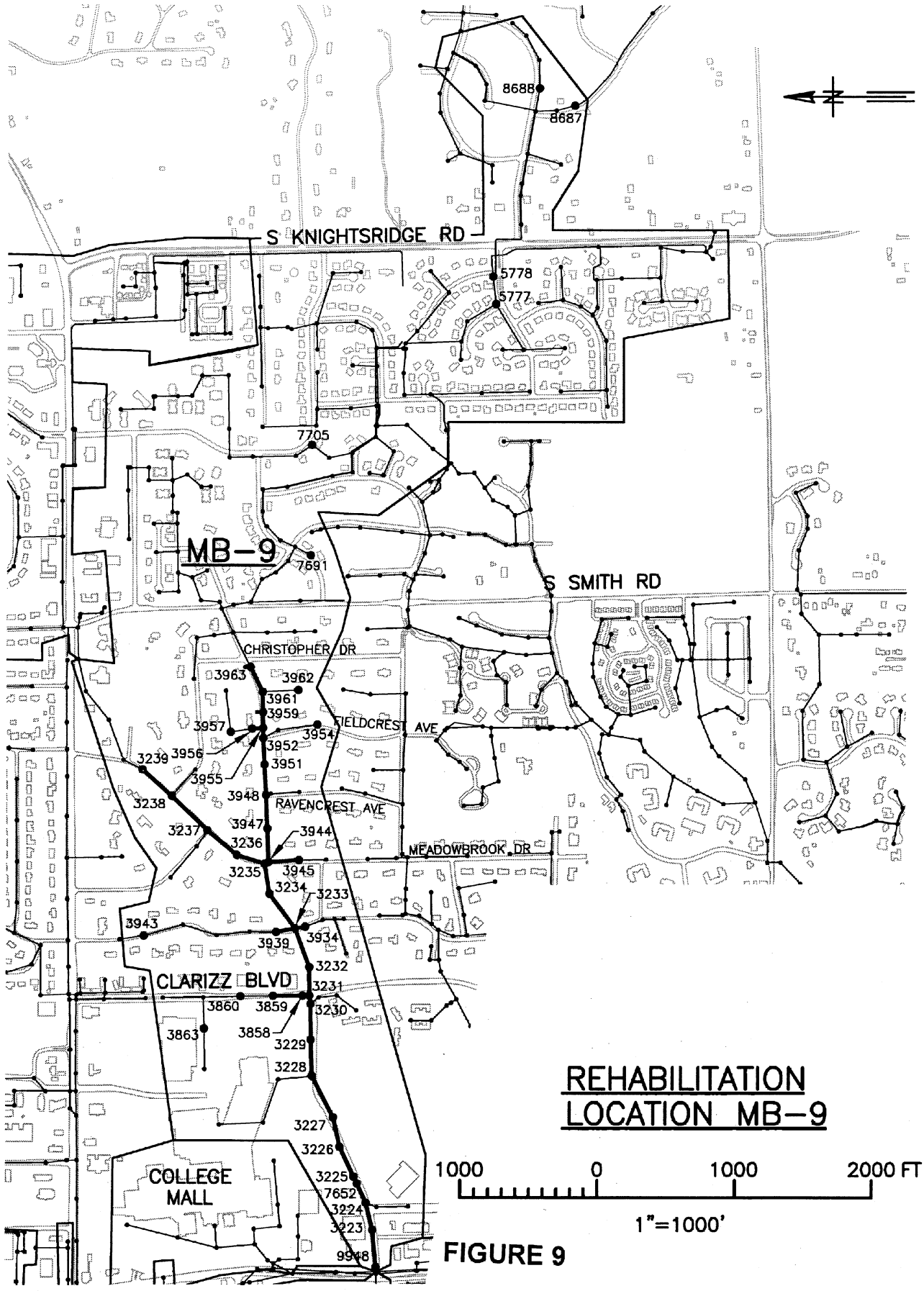
1"=400'

FIGURE 8

GREELEY AND HANSEN

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR02 1:1 09/29/08 11:54 GH-H



REHABILITATION LOCATION MB-9

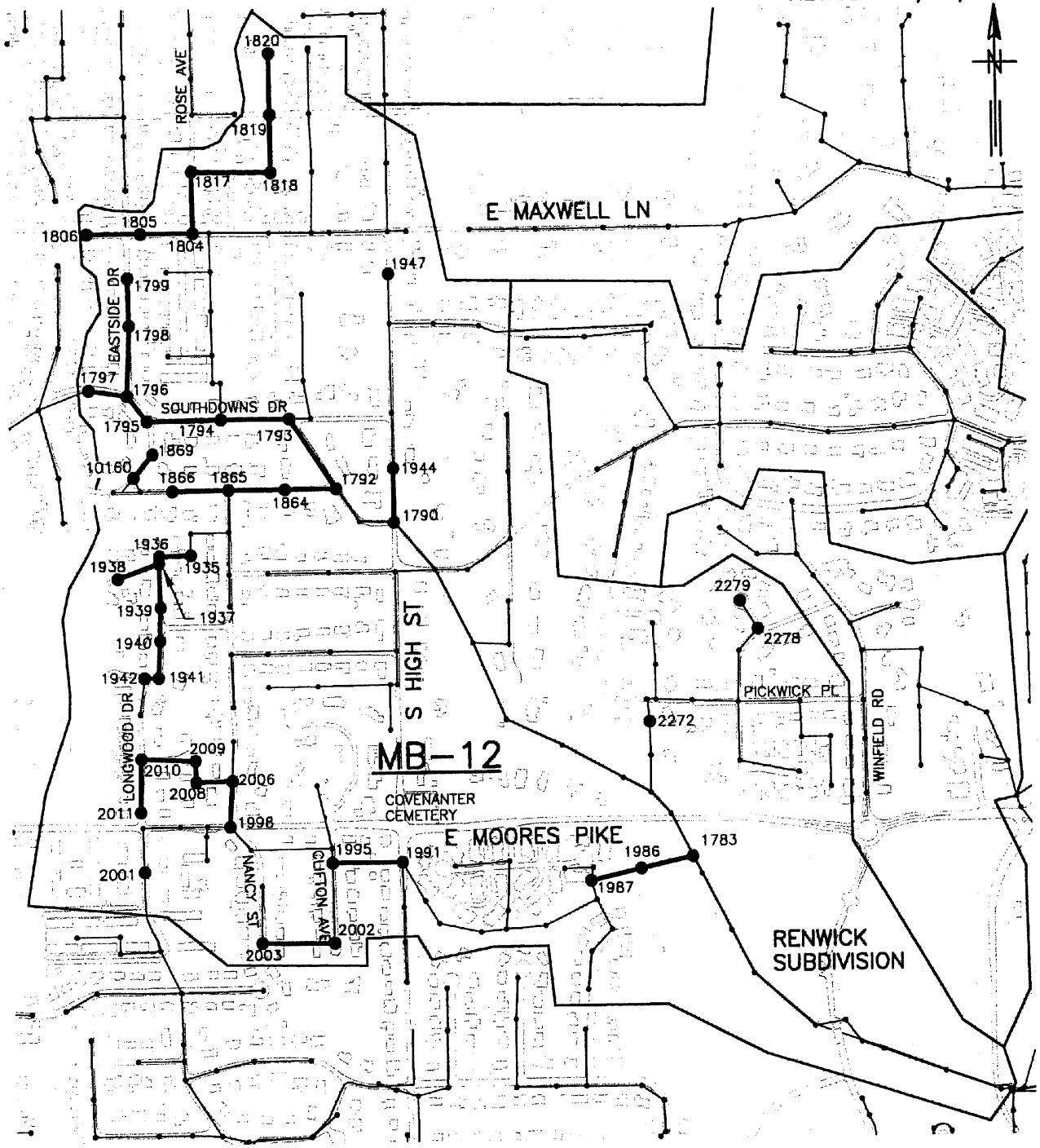
FIGURE 9

GREELEY AND HANSEN

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR12 1:1 12/08/08 13:41 GH-H

REVISED 01/30/2009



REHABILITATION LOCATION MB-12

700 0 700 1400 FT

1"=700'

FIGURE 10

GREELEY AND HANSEN

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR13 1:1 01/30/09 14:01 GH-H

East Central Sites (90095-134)

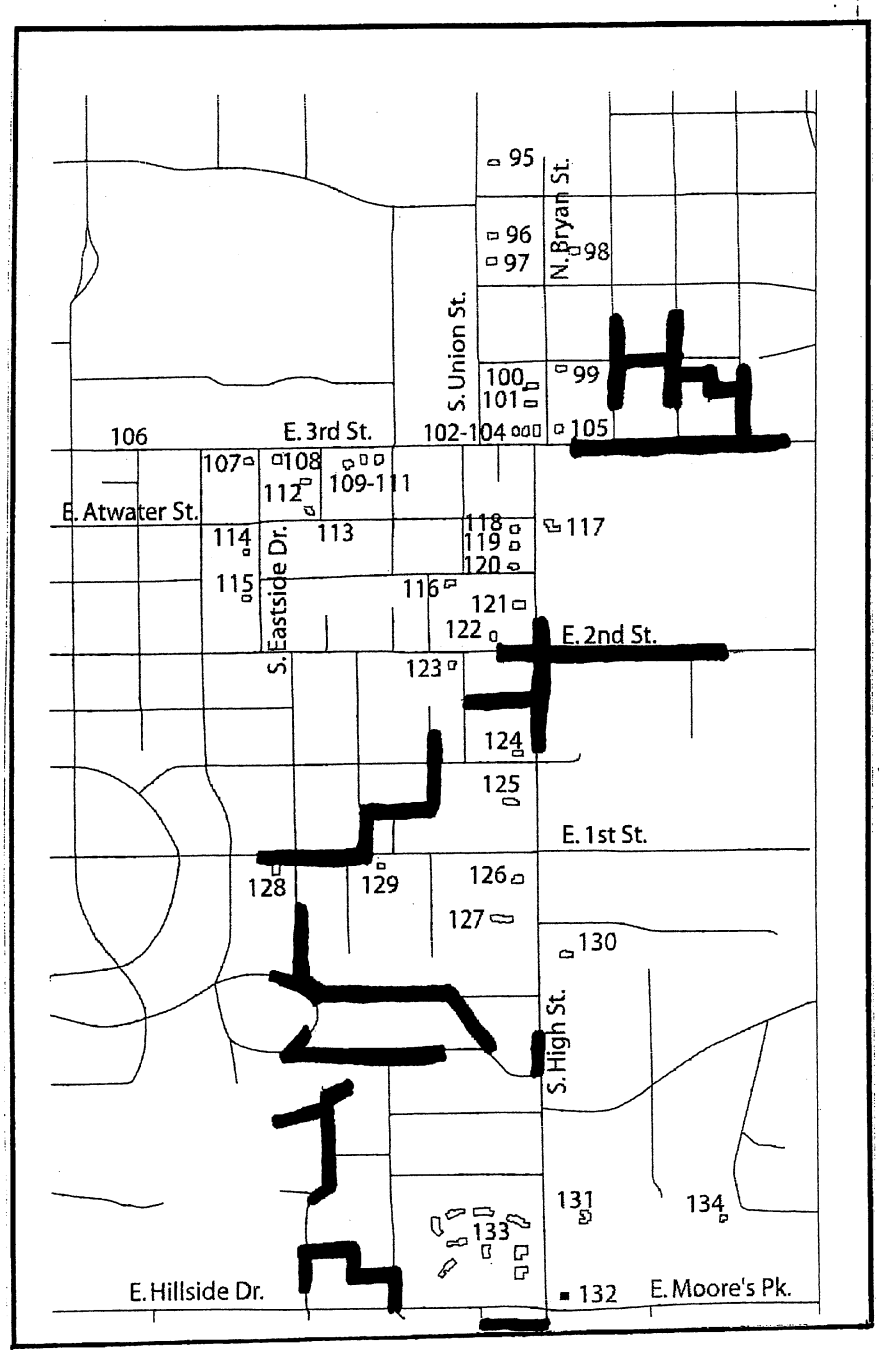
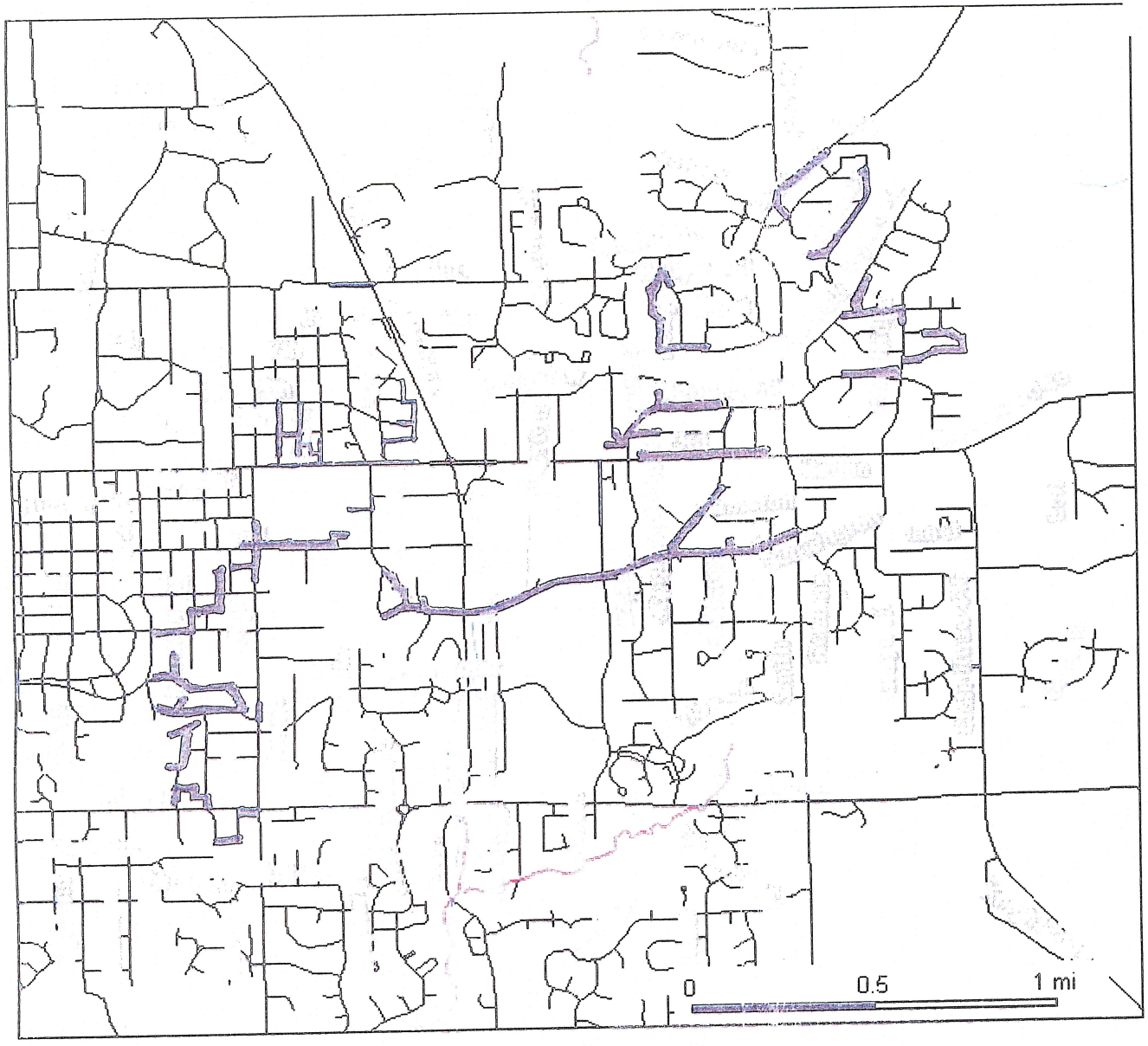


FIGURE 11

TAKEN FROM P.136 OF CITY OF BLOOMINGTON INTERIM REPORT

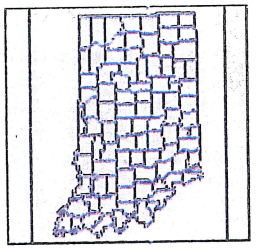
GREELEY AND HANSEN

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT



WETLAND MAP

N



Legend

Wetland Points

Streams (NHD)

Wetland Lines

Wetlands

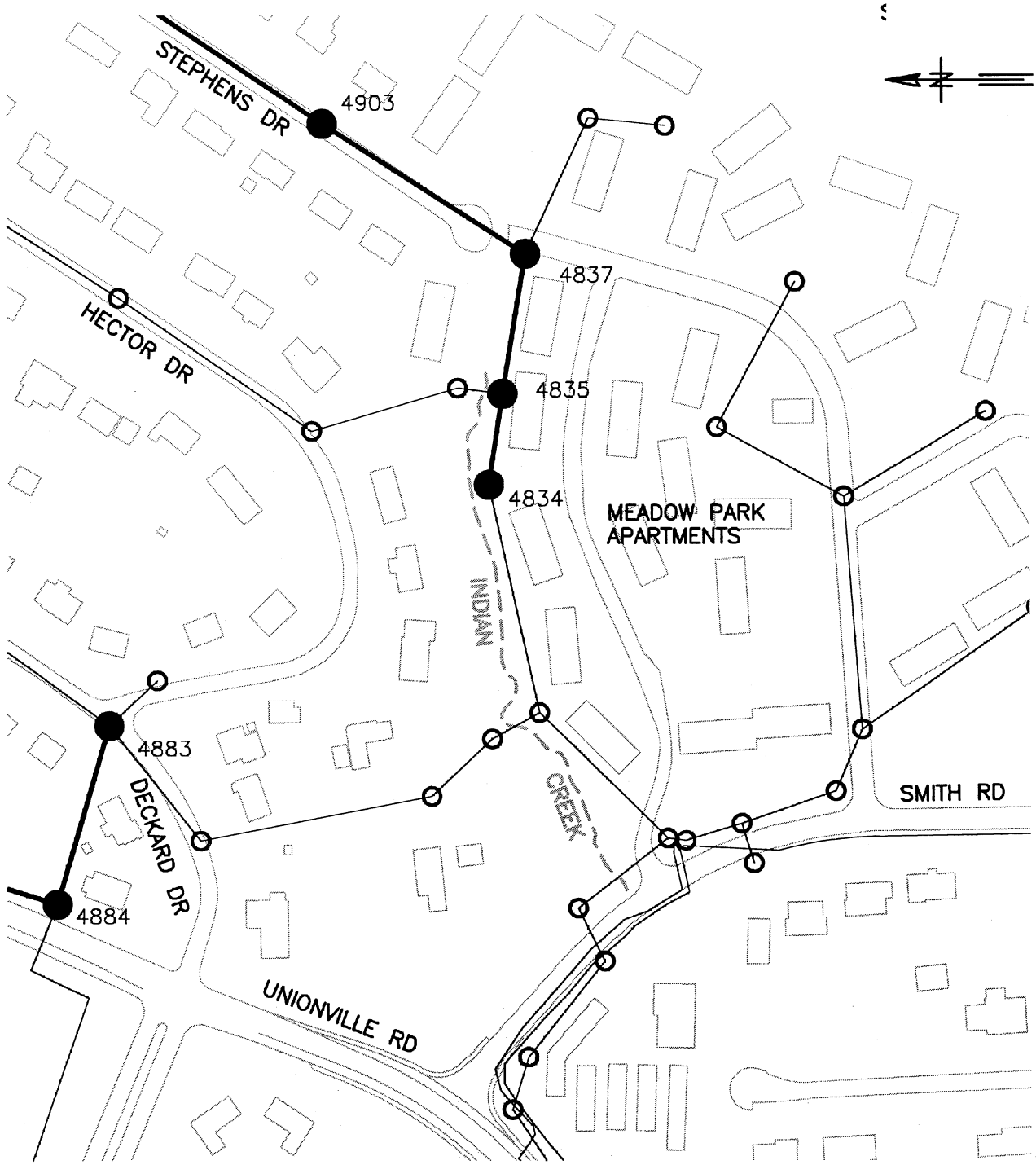
PROPOSED PROJECT LOCATION

Scale 1:28678

This map was prepared by the Indiana Geological Survey, using data believed to be accurate; however, a margin of error is inherent in all maps. This product is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability of a particular purpose or use. There is no attempt in either design or production of this map to define the limits or jurisdiction of any federal, state or local government. A detailed on-the-ground survey and historical analysis of a single site may differ from this map.

Indiana Geological Survey

FIGURE 12



LEGEND

EPHEMERAL STREAM

SURFACE WATER MAP – INDIAN CREEK

Mini-basin 2

200 0 200 400 FT

1"=200'

GREELEY AND HANSEN

FIGURE 13

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU – Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR18 1:1 09/30/08 15:13 GH-H

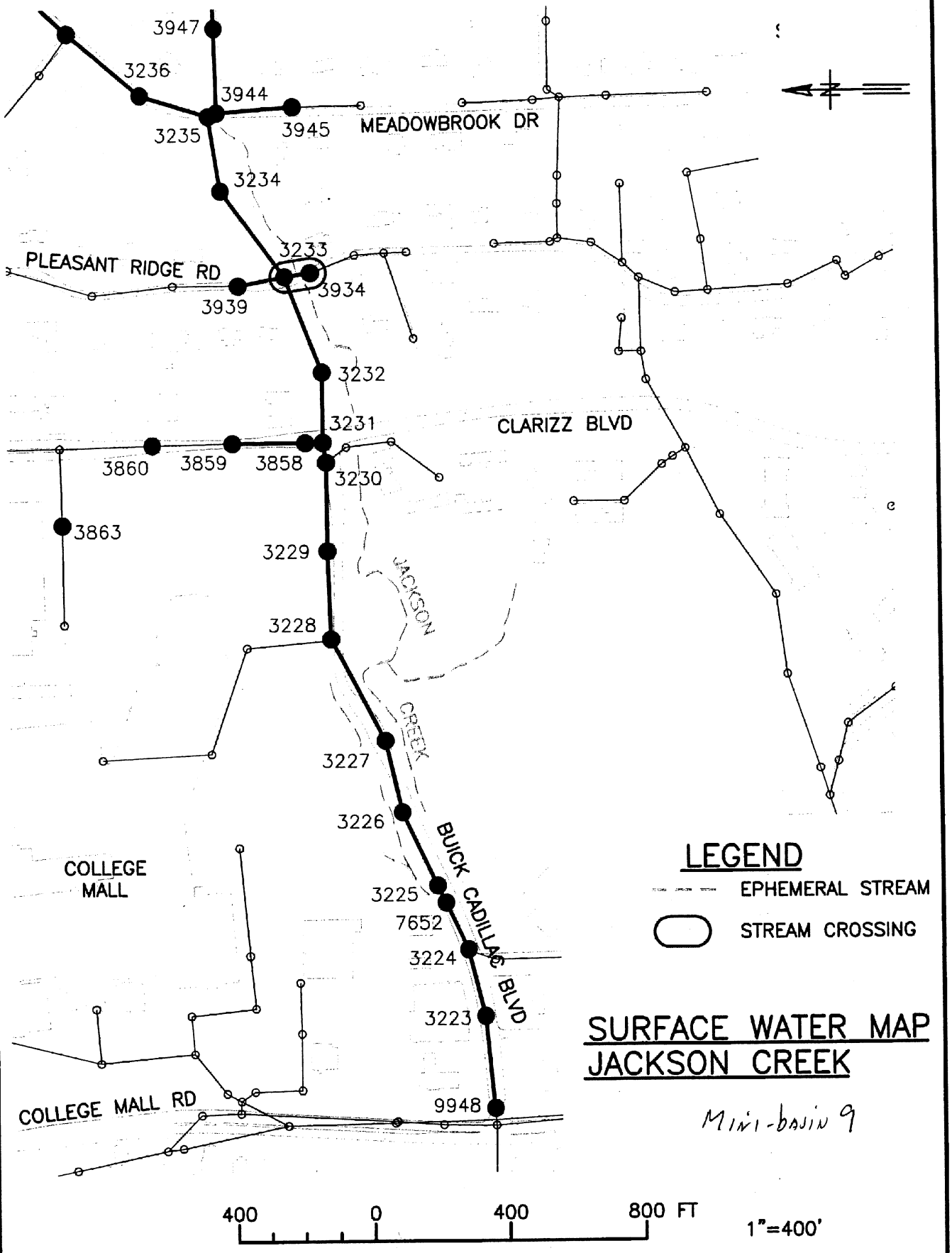
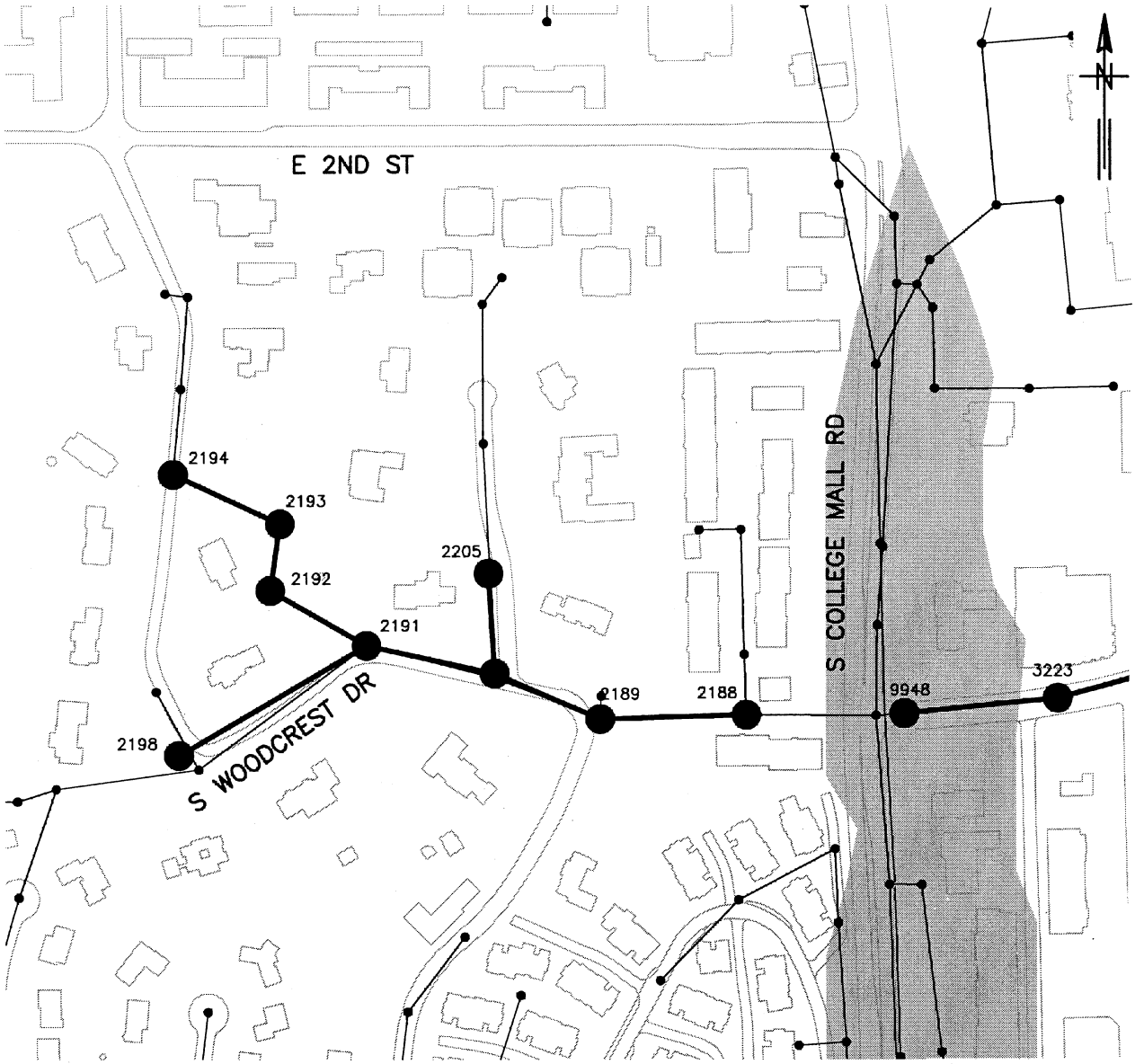


FIGURE 14 CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

GREELEY AND HANSEN

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR19 1:1 01/05/09 14:38 GH-H

Rcvd Jan 7 09



SOURCE:
FLOOD INSURANCE RATE MAP
FEDERAL EMERGENCY MANAGEMENT AGENCY
JUNE 17, 1991

LEGEND

ZONE AE
100 YEAR FLOOD

Mini-basin 8

100 YEAR FLOODPLAIN MAP

300 0 300 600 FT

1"=300'

FIGURE 15

NOTES:

1. SEWERS AND MANHOLES TO BE REHABILITATED ARE SHOWN IN BOLD.

GREELEY AND HANSEN

CITY OF BLOOMINGTON UTILITIES
SOUTH EAST SEWER BASIN
PRELIMINARY ENGINEERING REPORT

FILE: J:\Projects\0593H CBU - Compliance Plan Assistance\21 CADD Files\21.30 Study and Reports\SE_Basin_PER\0593HR16 1:1 09/30/08 15:25 GH-H